

**Notice of Allowability**

Application No.

10/784,806

Examiner

Sin J. Lee

Applicant(s)

KIM ET AL.

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 02-28-2005.
2. ☒ The allowed claim(s) is/are 1-29.
3. ☒ The drawings filed on 24 February 2004 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 03172005.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

TS

### EXAMINER'S AMENDMENT

1. Applicants canceled claims 30 and 32.
2. In view of the amendment of February 28, 2005, previous objection to specification, previous objection on claims 4 and 5, previous 112, second paragraph rejection on claims 1, 4, 12, and 18, previous 112, second paragraph rejection on claims 2, 5, 13, 14, 19, and 20, previous 112, second paragraph rejection on claims 4 and 5, previous 112, second paragraph rejection on claims 6, 7, 15, 21, 24, 27, and 30, previous 112, second paragraph rejection on claims 8, 9, 16, 22, 25, 28, and 31, and previous 112, second paragraph rejection on claims 10, 11, 17, 23, 26, 29, and 32 are hereby withdrawn.
3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.
4. Authorization for this examiner's amendment was given in a telephone interview with Mr. Scott M. Woodhouse on March 17, 2005.
5. The application has been amended as follows:

In **Claim 4**, on the fourth line following the chemical formula, delete "a compound".

In **Claim 6**, on the first line, delete "monomer or".

In **Claim 6**, on the fourth line following the chemical formula, change "1" to --- 2 ---.

In **Claim 10**, on the first line, delete "monomer or".

In **Claim 10**, on the last line, change "1" to --- 2 ---.

Cancel **Claim 31**.

In **Paragraph [0026] of present specification**, on the fourth line following the chemical formula, delete "monomer or", and on the fifth line following the chemical formula, change "1" to --- 2 ---.

In **Paragraph [0028] of present specification**, on the fourth line following the chemical formula, delete "monomer or", and on the fifth line following the chemical formula, change "1" to --- 2 ---.

6. The following is an examiner's statement of reasons for allowance:

The compound taught by Hazra et al (6,090,952) in its claim 1 is different from present compounds of claims 1-3 in that a cyclohexane ring is attached (fused) to the 2-oxepanone ring whereas in present compounds, a *cyclopentane* ring is attached (fused) to the 2-oxepanone ring. Also, Hazra's compound does not include present norbornene moiety, present (meth)acrylate moiety, or present alcoholic moiety (in which one -OH group is attached to a cyclohexane ring) of claims 1-3.

The compound taught by Takatsuto et al (5,763,366) in its claim 1 is different from present compounds of claims 1-3 in that a cyclohexane ring is attached (fused) to the 2-oxepanone ring whereas in present compounds, a *cyclopentane* ring is attached

(fused) to the 2-oxepanone ring. Also, Takatsuto's compound does not include present norbornene moiety, present (meth)acrylate moiety, or present alcoholic moiety of claims 1-3. Therefore, neither of Hazra and Takatsuto teaches or suggests present compounds of claims 1-3 or present polymers of claims 6, 8, and 10.

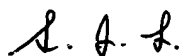
As previously indicated in the last Office action, although the reference, Kim et al (*"Nonshrinkable Photoresists for ArF Lithography" Advances in Resist Technology and Processing XX, Proceedings of SPIE Vol.5039 (2003)*) teaches present norbornene monomer of formula (I) and present alcoholic compound of formula (III), this reference cannot be a prior art under 35 USC 102 against present inventions because the reference was published by the *same inventive entity* in June 2003.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

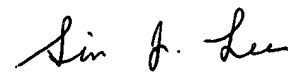
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sin J. Lee whose telephone number is 571-272-1333. The examiner can normally be reached on Monday-Friday from 9:00 am EST to 5:30 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S. Lee  
March 17, 2005



Sin J. Lee  
Patent Examiner  
Technology Center 1700